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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/871,216

05/31/2001

Marcel F.C. Schemmann

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6854

26646

7590

09/22/2004

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EXAMINER

PHAN, HANH

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,216

Applicant(s)

SCHEMMANN ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 21, 22 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 13 is/are allowed.
- 6) ☒ Claim(s) 12, 21, 22 and 24 is/are rejected.
- 7) ☒ Claim(s) 25-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4 & 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. Applicant's election without traverse of Groups I, II and VII directed to claims 1-13, 21, 22 and 24-29 in the reply filed on 06/28/2004 is acknowledged.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 24 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of copending Application No. 09/782,354 (Schemmann et al) in view of Nystrom et al (US Patent No. 5,412,351).

Regarding claim 24, Shemmann et al (copending Application No. 09/782,354) discloses an optical data signal transmitter comprising:

a Mach-Zender modulator, the Mach-Zender modulator receiving an input optical signal and modulating a pair of side carriers onto the input optical signal, outputting an optical carrier signal; and

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at least two phase modulators, the at least two phase modulators receiving the optical carrier signal and each generating an optical data signal by modulating a pair of data signals onto at least two data bands (see claims 1-3 and 30-33 of copending Application No. 09/782,354).

Shemmann et al differs from claim 24 in that he does not specifically teach the data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during transitions between data symbols. However, Nystrom teaches the data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during transitions between data symbols (Fig. 5c. col. 3, lines 25-35). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during transitions between data symbols as taught by Nystrom in the system of Shemmann in order to provide an optical communication system with high speed and high capacity and to increase to the signal to noise ratio and compensate the polarization mode dispersion of the signal.

This is a provisional obviousness-type double patenting rejection.

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Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Wood (US Patent No. 6,141,141).

Regarding claim 22, referring to Figure 3a, Wood discloses a method of providing information concerning a transmission device, comprising the steps of:

providing an optical data signal having data bands and a side carrier (Fig. 3a, col. 4, lines 32-54);

modulating the side carrier with an identification code, the identification code including information concerning the transmitter (Fig. 3a, col. 4, lines 17-22); and

transmitting to a receiver, the optical data signal including the side carrier (col. 4, lines 19-22).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nystrom et al (US Patent No. 5,412,351) in view of Adachi et al (Pub. No.: US 2001/0050962) .

Regarding claim 12, referring to Figure 5a, 5c and 7, Nystrom discloses a method of reducing the transmitted power of a quadrature modulated data signal, comprising the steps of:

providing a quadrature modulated data signal (Figs. 5a and 7); and

during transitional states of the quadrature modulated data signal in which data symbols change in value, reducing the power to zero such that transmitted power decreases to zero at approximately a mid point of the transitional states (Fig. 5c. col. 3, lines 25-35).

Nystrom differs from claim 12 in that he does not specifically teach the signal is an optical signal. However, Adachi teaches the signal is an optical signal (Fig. 9, page 7, paragraphs [0151]-[0152]). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the signal is an optical signal as taught by Adachi in the system of Nystrom. One of ordinary skill in the art would have been motivated to do this

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since Adachi suggests in page 7, paragraphs [0151]-[0152] that using such the signal is an optical signal has advantage of allowing providing an optical communication system with high speed and high capacity.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dodds (US Patent No. 6,259,836) in view of Wood (US Patent No. 6,141,141) .

Regarding claim 21, referring to Figures 1B-1D , 3 and 4, Dodds discloses a method of simulating homodyne reception in a receiver (Fig. 4) without the use of a local oscillator, comprising the steps of:

receiving an optical data signal having at least one data band occupying a range of frequencies and a side carrier (As indicated in Fig. 4, col. 4, lines 7-55, an optical receiver 42 at the end of fiber 40 to receives an optical data signal having at least one data band occupying a range of frequencies and a side carrier ω_m).

Dodds differs from claim 21 in the he does not specifically teach shifting a frequency of the side carrier to a frequency in the middle of the range of frequencies of the at least one data band. However, Wood teaches shifting a frequency of the side carrier to a frequency in the middle of the range of frequencies of the at least one data band (see Figs. 9 and 9a-9d, col.6, lines 42-49). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the shifting a frequency of the side carrier to a frequency in the middle of the range of frequencies of the at least one data band as taught by Wood in the system of Dodds. One of ordinary skill in the

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art would have been motivated to do this since Wood suggests in column 6, lines 42-49 that using such shifting a frequency of the side carrier to a frequency in the middle of the range of frequencies of the at least one data band has advantage of allowing improving the signal to noise ratios of signals and to compensate for polarization mode dispersion during transmission.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dodds (US Patent No. 6,259,836) in view of Nystrom et al (US Patent No. 5,412,351).

Regarding claim 24, referring to Figures 1 and 3, Dodds discloses an optical data signal transmitter (Fig. 3) comprising:

a Mach-Zender modulator (34)(Fig. 3, col. 3, lines 50-60), the Mach-Zender modulator receiving an input optical signal and modulating a pair of side carriers onto the input optical signal, outputting an optical carrier signal; and

at least two phase modulators (37)(Fig. 3, col. 3, lines 50-60), the at least two phase modulators receiving the optical carrier signal and each generating an optical data signal by modulating a pair of data signals onto at least two data bands.

Dodds differs from claim 24 in that he does not specifically teach the data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during transitions between data symbols. However, Nystrom teaches the data bands are spread in frequency when modulated onto the carrier signal, the

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spreading causing an amplitude of the data signal to be reduced to zero during transitions between data symbols (Fig. 5c. col. 3, lines 25-35). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during transitions between data symbols as taught by Nystrom in the system of Dodds in order to provide an optical communication system with high speed and high capacity and to increase to the signal to noise ratio and compensate the polarization mode dispersion of the signal.

Allowable Subject Matter

10. Claims 25-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 1-11 and 13 are allowed.

Conclusion

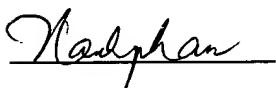
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax

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phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

A handwritten signature in cursive script, appearing to read 'Hanh Phan', is written over a horizontal line.

Hanh Phan

09/15/2004